10 CSR 10-2.340 Control of Emissions from Lithographic Printing Facilities

(1) Applicability.

(A) This regulation shall apply throughout Clay, Jackson and Platte Counties.

(B) This regulation shall apply to installations that have calculated actual volatile organic compound (VOC) emissions for a known number of crewed hours, increased by the amount by weight of VOCs whose emission into the atmosphere is prevented by the use of air pollution control devices and extrapolated to eight thousand seven hundred sixty (8,760) hours per year equal to or greater than one hundred (100) tons per year from offset lithographic printing presses after December 9, 1991. The following factors shall be taken into consideration unless an alternative method is approved by the director:

1. The installation shall assume fifty percent (50%) of the solvent used for cleanup is retained in the rag(s) when the used solvent-laden rag(s) are cleaned or disposed of. The installation must demonstrate to the director that the solvents are not evaporated into the air when the waste rags are properly cleaned and disposed of;

2. The installation shall assume forty percent (40%) of the heatset ink oils stay in the paper web;

3. The installation shall assume no VOCs are emitted from the inks used in sheet-fed presses and nonheatset web presses; and

4. The installation may assume that fifty percent (50%) of the alcohol from the fountain solution is emitted from the dryer.

(C) This regulation shall not apply to—

1. Printing on fabric, metal or plastic;

2. Sheet-fed lithographic presses with cylinder widths of twenty-six inches (26") or less; or

3. Web lithographic presses with cylinder widths of eighteen inches (18") or less.

(2) Definitions.

(A) Alcohol — Refers to isopropanol or isopropyl alcohol;

(B) Coating — In the graphic arts industry, a layer of material that dries or cures by evaporation and is applied to a substrate over ink in a relatively unbroken film;

(C) Fountain solution — The solution which is applied to the image plate to maintain the hydrophilic properties of the nonimage areas. It is primarily water containing an etchant, gum arabic and a dampening aid;

(D) Heatset — A class of web-offset lithography which requires a heated dryer to evaporate the ink oils and solvents from the printing inks;

(E) Lithographic printing — A printing process where a planographic plate is used with the image area oleophilic and the nonimage area hydrophilic;

(F) Offset — The process that transfers an image from a plate to a rubber blanket cylinder before transfer to the substrate surface to be printed;

(G) Sheet-fed — Printing presses that are fed from a stack of paper sheets instead of a web. Sheet-fed presses generally use coldset inks; and

(H) Web — The substrate printed in a continuous roll-fed printing process.

(I) Definitions of certain terms in this rule, other than those specified in this rule section may be found in 10 CSR 10-6.020.

(3) General Provisions.

(A) No owner or operator shall use or permit the use of any offset lithographic printing press unless—

1. The fountain solution contains ten percent (10%) or less by weight of alcohol;

2. The fountain solution is refrigerated to a temperature of fifty-five degrees Fahrenheit (55/F) or less for alcohol-based solutions;

3. The fountain solution temperature at the mixing tank for alcohol-based solutions is monitored during each shift; and

4. The fountain solution mixing tanks are covered for alcohol-based solutions.

(B) No owner or operator shall use or permit the use of any offset lithographic printing press that uses cleanup solvents containing VOCs unless—

1. The cleanup solvents are kept in tightly covered tanks or containers during transport and storage;

2. The cleaning cloths used with the cleanup solvents are placed in tightly closed containers when not in use and while awaiting off-site transportation. The cleaning cloths should be properly cleaned and disposed of. The cloths, when properly cleaned or disposed of, are processed in a way that as much of the solvent, as practicable, is recovered for further use or destroyed. Cleaning and disposal methods shall be approved by the director; and

3. An owner or operator may use an alternate method for reducing cleanup solvent VOC emissions, including the use of low VOC cleanup solvents, if the owner or operator shows the emission reduction is equal to or greater than those in paragraphs (3)(B)1. and 2. This alternate method must be approved by the director.

(C) No owner or operator shall use or permit the use of any heatset web-offset lithographic printing press that uses a dryer that has ever had an actual emission rate of ten (10) tons per year or more VOCs after December 9, 1991, unless one hundred percent (100%) of the dryer exhaust is ducted to a control device that achieves eighty-five percent (85%) by weight or greater control efficiency.

(D) Use of emission control equipment shall require that continuous monitors be installed, calibrated, operated and maintained. The monitors continuously shall measure—

1. The exhaust gas temperature of all VOC destruction devices and the gas temperature immediately upstream and downstream of any catalytic bed with an accuracy of plus or minus 0.75% measured in degrees Celsius, or 2.5 degrees Celsius;

2. The cumulative amount of VOC recovered during a calendar month for all VOC recovery equipment attached to a dryer with an accuracy of plus or minus two percent (±2%); and

3. Any other parameters considered necessary by the director to verify proper operation of emission control equipment.

(4) Reporting and Record Keeping.

(A) All persons subject to this regulation shall maintain records as required by this section sufficient to determine continuous compliance with this regulation. These records shall be kept for at least two (2) years. These records shall be available immediately upon request for review by Department of Natural Resources personnel and other air pollution control agencies with proper authority.

(B) All persons subject to subsection (3)(C) shall maintain records for each control device sufficient to demonstrate that the control efficiency is being maintained.

(C) For each regulated printing press, records shall be maintained to show—

1. Quantity of alcohol added to the fountain solution of each regulated press in pounds each month;

2. Percent of alcohol in fountain solution by weight as monitored on a once per shift basis;

3. Results of any testing conducted on an emission unit at a regulated installation;

4. Maintenance records of any air pollution control equipment; and

5. The temperature of alcohol-based fountain solution as recorded on a once per shift basis.

(D) For each lithographic installation subject to this regulation, records shall be maintained to show—

1. Properties of heatset inks as applied (determined by the manufacturer’s formulation data), density of inks in pounds per gallon, and total VOC content in weight percent;

2. Quantity of heatset inks as applied to substrate in pounds on a monthly basis;

3. Quantity of cleanup solvents used on a monthly basis; and

4. Quantity of coatings used on a monthly basis and percent VOC in coating by weight on a formulation basis.

(E) The director may require other records as reasonable and necessary to carry out the provisions of the Missouri Air Conservation Law.

(F) All persons subject to the provisions of this regulation shall provide to the director for approval a demonstration of final compliance with subsection (3)(A)—

1. Upon startup of presses which are not in existence and operating on December 9, 1991;

2. Within eighteen (18) months (June 9, 1993) after the effective date of this regulation (December 9, 1991) for all presses with a cylinder width of less than sixty inches (60") and all web presses with a cylinder width of sixty inches (60") or greater that are in existence and operating on December 9, 1991; and

3. Within thirty-six (36) months (December 9, 1994) after the effective date of this regulation (December 9, 1991) for all sheet-fed presses with a cylinder width of sixty inches (60") or greater that are in existence and operating on December 9, 1991.

(G) All persons subject to the provisions of this regulation shall provide to the director for approval a demonstration of final compliance with subsections (3)(B) and (C) of this rule—

1. Upon startup of presses which are not in existence and operating on December 9, 1991; and

2. Within eighteen (18) months (June 9, 1993) after the effective date of this regulation for all presses that are in existence and operating December 9, 1991.

(H) All persons subject to the provisions of this regulation and not in compliance with all provisions of this regulation within twelve (12) months (December 9, 1992) from the effective date of this regulation (December 9, 1991) must submit a compliance plan to the director for approval. This plan must be received within six (6) months (June 9, 1992) after the effective date of this regulation (December 9, 1991). This plan must include the following:

1. A detailed plan of process modifications; and

2. A time schedule for compliance containing increments of progress, including:

A. Date of submittal of the source's final control plan to the appropriate air pollution control agency;

B. Date by which contracts for emission control systems or process modifications will be awarded; or date by which orders will be issued for the purchase of component parts to accomplish emission control or process modification;

C. Date of initiation of on-site construction or installation of emission control equipment or process change;

D. Date by which on-site construction or installation of emission control equipment or process modification is to be completed; and

E. Date by which final compliance is to be achieved.

(5) Test Methods.

(A) Testing and compliance demonstrations for subsection (3)(C) of this rule shall follow the procedures contained in Environmental Protection Agency Reference Methods 25 or 25A found in 40 CFR Part 60, Appendix A.

(B) Testing and compliance demonstrations for paragraph (3)(A)1. of this rule shall be based on the results from a calibrated hydrometer or refractometer.

EPA Rulemakings

CFR: 40 C.F.R. 52.1320(c)

FRM: 68 FR 61756 (10/30/2003)

PRM: 68 FR 61782 (10/30/2003)

State Submission: 09/16/2003

State Final: 28 MR 1301 (07/15/2003)

State Effective Date: 09/30/2003

APDB File: MO-221

Description: This revision clarifies the applicability provisions in section (1). The rule was also reorganized. The Emission Limits provisions are now incorporated into Section 3 General Provisions; the Compliance provisions are now incorporated into Section 4(F); and the Calculations provisions are now incorporated into Section 1(B).

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CFR: 40 C.F.R. 52.1320(c)(77)(i)(A)

FRM: 57 FR 27939 (6/23/92)

PRM: 57 FR 1705 (1/15/92)

State Submission: 10/9/91

State Proposal: 16 MR 877 (6/17/91)

State Final: 16 MR 1544 (10/15/91)

APDB File: MO-81

Description: This revision approves the maintenance plan and redesignation request to redesignate Clay, Platte, and Jackson Counties to attainment for ozone. This new rule was approved and is a non-CTG RACT rule, which applies to nine existing facilities and new facilities that have the potential to emit more than 100 TPY of VOC from lithographic printing operations.

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Difference Between the State and EPA-Approved Regulation

None.